

CLAIMS

Sub
OP/

1. A filter apparatus for filtering solids from a liquid comprising:

a tank adapted to receive liquid to be filtered, said tank including a bottom and a rear endwall;

a perforate section formed in said tank bottom, a collection chamber disposed beneath said perforate layer, and means for drawing liquid through said perforate section into said collection chamber;

a continuous loop of a porous permanent filter media belt, including a segment extending down said rear wall and passing along said tank bottom over said perforate section to an exit point at the end of said tank opposite said rear wall;

guide means guiding said continuous permanent media belt out of said tank at a side opposite said rear wall, beneath said tank bottom, up the outside of said rear wall and back into said tank;

a pair of continuous chain conveyor loops disposed within said tank, each of said chain conveyor loops including a segment extending over a respective side edge of said filter media belt along said bottom of said tank to said exit;

guide means directing said chain conveyor loops from said exit point back over the upper region of said tank to said rear wall and back into said tank, converging with said permanent filter media belt at said rear wall, said permanent media belt and said chain conveyor loops thereby taking divergent routes after exiting said tank;

index drive means for periodically advancing said chain conveyor loops incrementally from said rear wall;

said chain conveyor loops drivingly engaging said media belt segments by frictional means to advance said segments with said chain conveyor segments during index-

end
ing thereof.

2. The filter apparatus according to claim 1 wherein said chain conveyor loop segments each lie directly atop one side of said permanent filter media belt segment to establish direct frictional engagement therewith.

Sub C2
3. The filter apparatus according to claim 1 further including a disposable porous media belt entering between said chain conveyor loops and said permanent filter media belt as said chain conveyor loops and permanent filter media belt converge together at said rear wall, said disposable media belt extending along said tank bottom and out said exit end of said tank, said chain conveyor loop segment lying atop side edges of said disposable media belt to indirectly frictionally engage said side edges of said permanent filter media belt segments to cause incremental advance of each.

4. The filter apparatus according to claim 1 wherein said belt guide means causes downward rearward routing of said permanent filter media belt and further including a scraper edge inclined to scrape the lower surface of said permanent filter media belt as said belt proceeds rearwardly beneath said tank.

5. The filter apparatus according to claim 4 further including a trough beneath said tank, said belt guide means causing said permanent filter media belt to be looped within said trough, and wash jet means directly washing jets from the upper surface of said belt in said collection trough.

Sub A3
6. The filter apparatus according to claim 5 wherein said scrape edge slants down and forwardly away from said permanent filter media belt.

7. The filter apparatus according to claim 6 wherein said scrape edge is affixed to said collection trough.

8. The filter apparatus according to claim 1 wherein said tank bottom slopes upwardly from the bottom of

said tank rear wall.

9. The filter apparatus according to claim 1 wherein said chain conveyor loops are connected together by a series of spaced apart chain flights extending across said tank from loop to loop.

10. The filter apparatus according to claim 1 wherein said side edges of said permanent filter media belt are coated.

11. The filter apparatus according to claim 10 are coated with urethane plastic impregnated into the porous material of said side edges.